English

KEELER LOUPES

USER MANUAL
MAGNIFICATION SYSTEMS

PLEASE READ & FOLLOW THESE INSTRUCTIONS CAREFULLY

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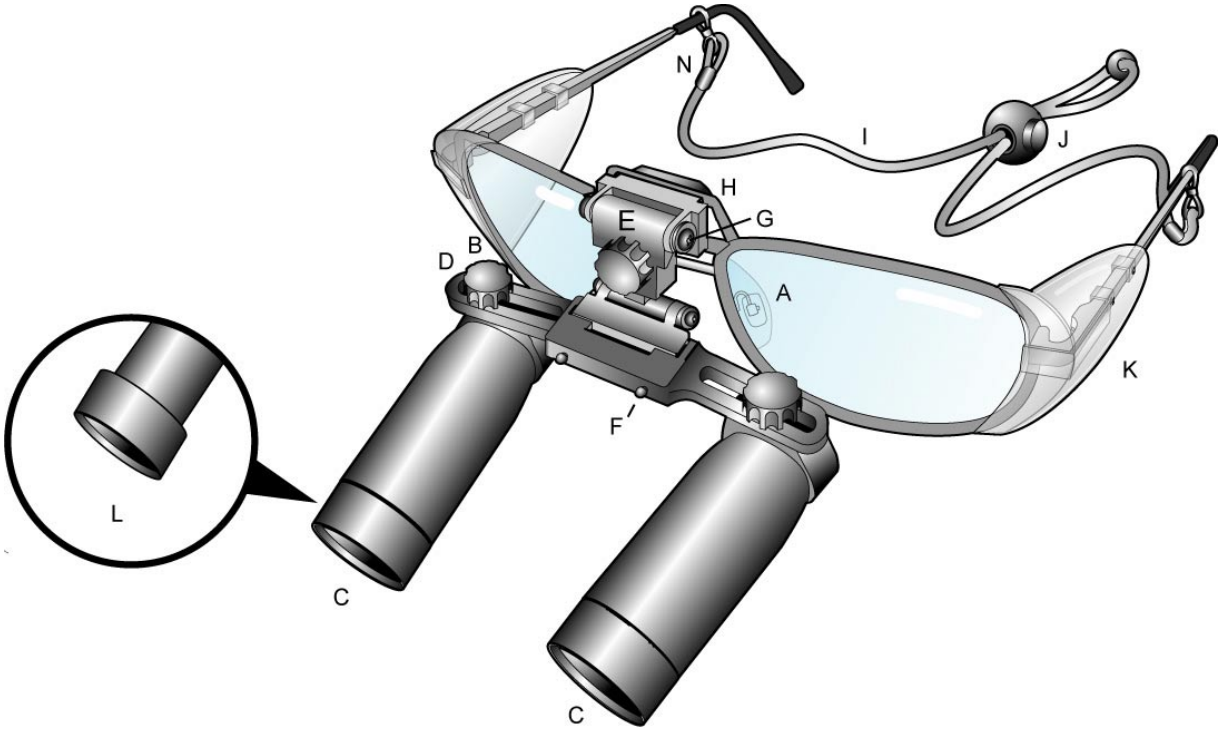
As part of our continued product development we reserve the right to amend specifications at any time without prior notice.



A NOSE PADS

B TELESCOPE LOCKING KNOBS

C TELESCOPE

D P.D. BAR

E HINGE

F HINGE PINS

G HINGE TIGHTENING SCREWS

H BACKPLATE

I NECKCORD

J TOGGLE

K SIDE SHIELDS (REMOVEABLE)

L REMOVEABLE PROTECTIVE CAPS

1. INTRODUCTION

Thank you for choosing Keeler Surgical Loupes.
As well as giving you the highest optical quality, our stringent manufacturing controls ensure that you will obtain many years of trouble free use from your Loupes.

Before attempting to work with your Loupes and in order that you obtain the best from them, we recommend that you take the time to carefully read through these user notes.

It is important that if you normally wear spectacles, your prescription is fitted into the Loupe frames. Guidance notes for your optician are included at the rear of this section, please take these notes with you to your optician should you require prescription lenses to be fitted.

2. YOUR LOUPE SPECIFICATION

When you receive your new Keeler Surgical Loupes please check that the contents are as ordered:

The magnification and working distance of the Loupes is marked on the Loupe bar (e.g. 3.5x 42cm / 16”).
The frame size is marked on the inside of the frame arm.
As well as a pair of Loupes and a frame, a full loupe outfit will comprise of the following additional components:

Loupe flip lever
Headstrap
Lens cloth
User notes on CD
Case

3. HOW TO SET UP YOUR LOUPES

The aim in using Keeler Surgical Loupes is to achieve a clear, circular, binocular view (Fig. 1) at your chosen magnification and working distance without any shadows or double images.

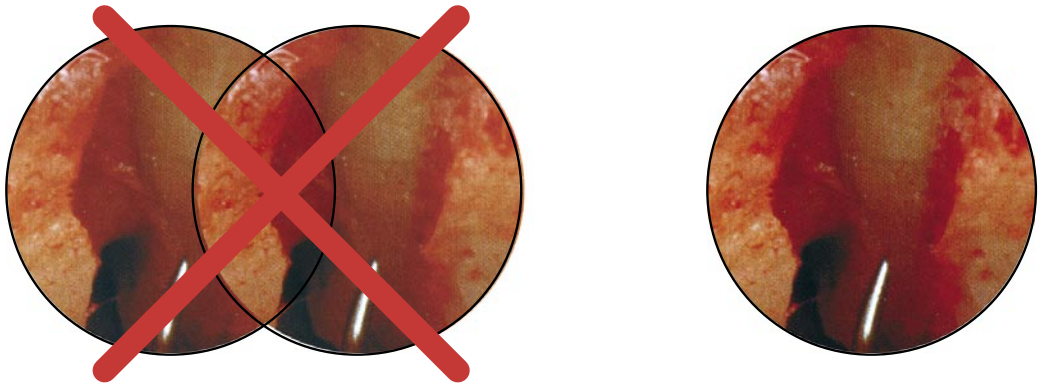


Fig. 1

To achieve the best from your Keeler Loupes, they must be correctly aligned both horizontally and vertically with your visual axis (Figs. 2 and 3).

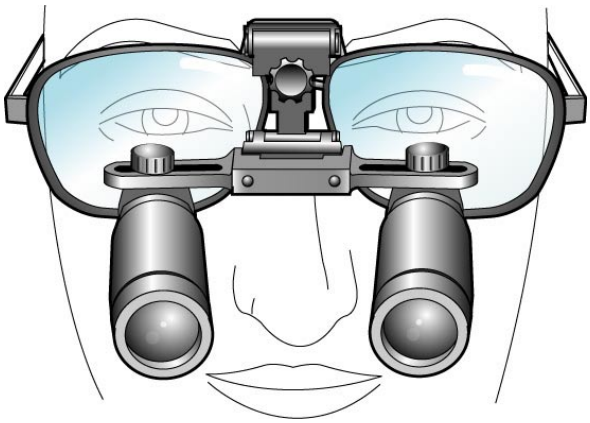


Fig. 2

Fig. 3

To obtain this, your loupes may require some minor adjustments. The most common are:

ADJUSTMENT		METHOD
Vertical alignment (height) (Fig 4 & 5)	=	Pinch or open frame pads

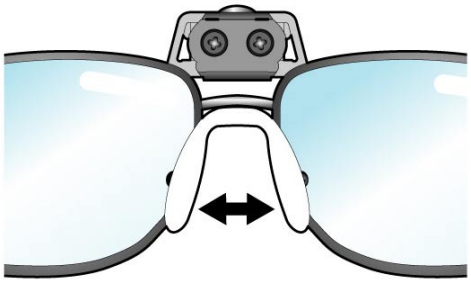


Fig. 4

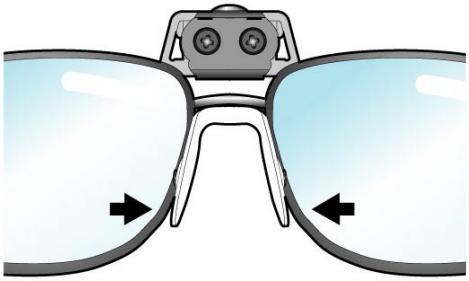


Fig. 5

Horizontal alignment (PD)	=	Slightly loosen locking knobs (interpupillary distance) and slide telescope along bar (Fig 7)

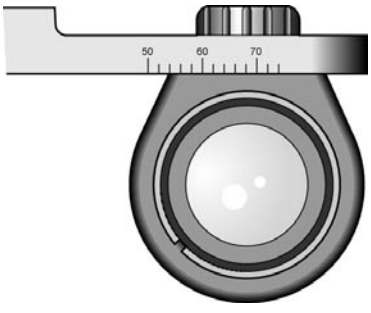


Fig. 7

SETTING UP

Look through your loupes at a target that is the correct working distance away. Look through first with one eye closed, and adjust the alignment until a perfect image appears. Repeat this with the other eye. Alternate closing the left and right eye to check binocularity and make fine adjustments. Once you are satisfied that you have the best possible image, tighten the telescope locking knobs.

IMPORTANT

All Keeler Surgical Loupes are accurately aligned and set for precise binocular vision. Under no circumstances should adjustment be made by rotating or holding the telescopes, as this may cause the telescopes to misalign and create double vision.

Examples of what is seen when looking through a poorly aligned telescope are shown below in the column headed “Image Quality”. The cause of the poor alignment is shown alongside in the column headed “Telescope position” and the action to achieve precise alignment shown alongside that in the column headed “action”.
The corrective actions outlined below should be followed for each individual telescope.

IMAGE QUALITY	TELESCOPE POSITION	ACTION
	Too high	Open frame pads
	Too low	Pinch frame pads
	Too far left	Slide telescope to the right in the direction of the shadow
	Too far right	Slide telescope to the left In the direction of the shadow

4. YOUR WORKING ANGLE

Correctly fitted loupes can help reduce back and neck pain. Spend a few moments ensuring your loupes are at the optimal angle to suit you.
Adjust the angle and height of your loupes by adjusting the hinge (Fig. 6).

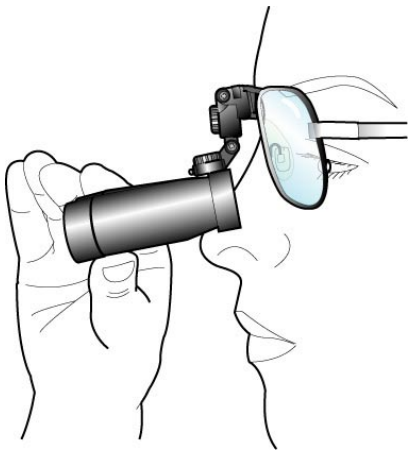


Fig. 6

5. HOW TO ADJUST LOUPES FITTED TO A HEADBAND

If you have ordered your Keeler Loupes for fitting to a headband, the following notes will help you to “set up” the Loupes correctly.

Put the headband on and position CENTRALLY on your head with the padded band just above your eyebrows, adjusting both top and back bands for security and comfort. Position the telescopes in approximately the correct position in front of your eyes. Slightly loosen both adjustment knobs so that the telescopes can be moved easily. Vertically align each telescope. (Fig. 8)

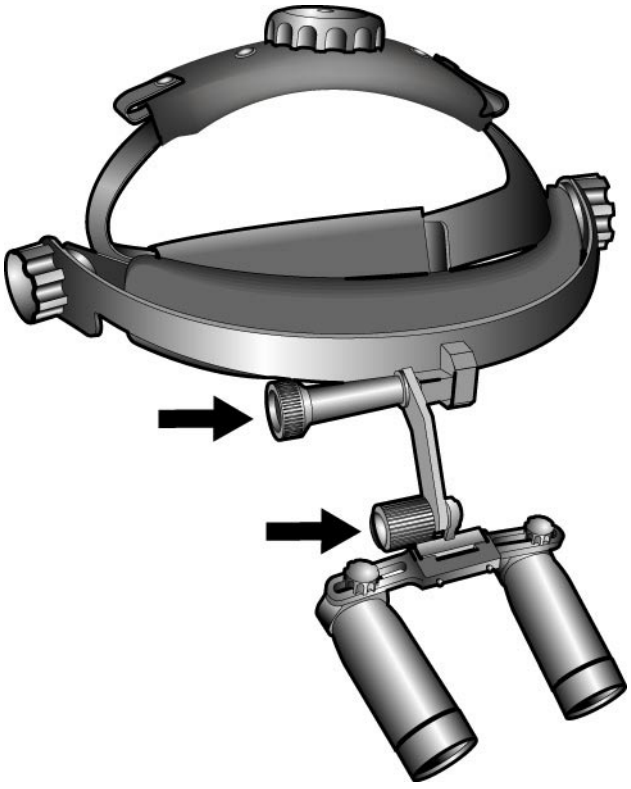


Fig. 8

Align each telescope as outlined earlier by sliding along the bar. (Fig. 7)

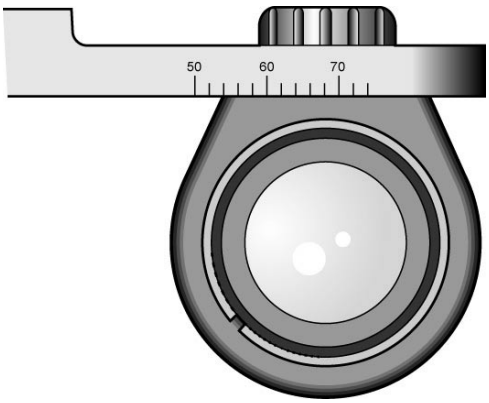


Fig. 7

N.B. If you are using your Loupes in conjunction with a fibre-optic headlamp, first adjust the Loupes as described above. The light may then be adjusted to illuminate the specific area you are viewing through your Loupes.

6. HOW TO FIT AND REMOVE LOUPES FROM A FRAME OR HEADBAND

Keeler loupes allow you to easily fit or remove them from a frame or headband. This allows you to switch between loupes of different magnifications without having to purchase an additional frame. To fit Keeler Loupes to the hinge, hold the Loupe PD bar and push the Loupes onto the hinge pins through the holes on the PD bar. To remove, hold the loupe P.D bar and hinge and wriggle the Loupes away from the pins. (Fig. 9)

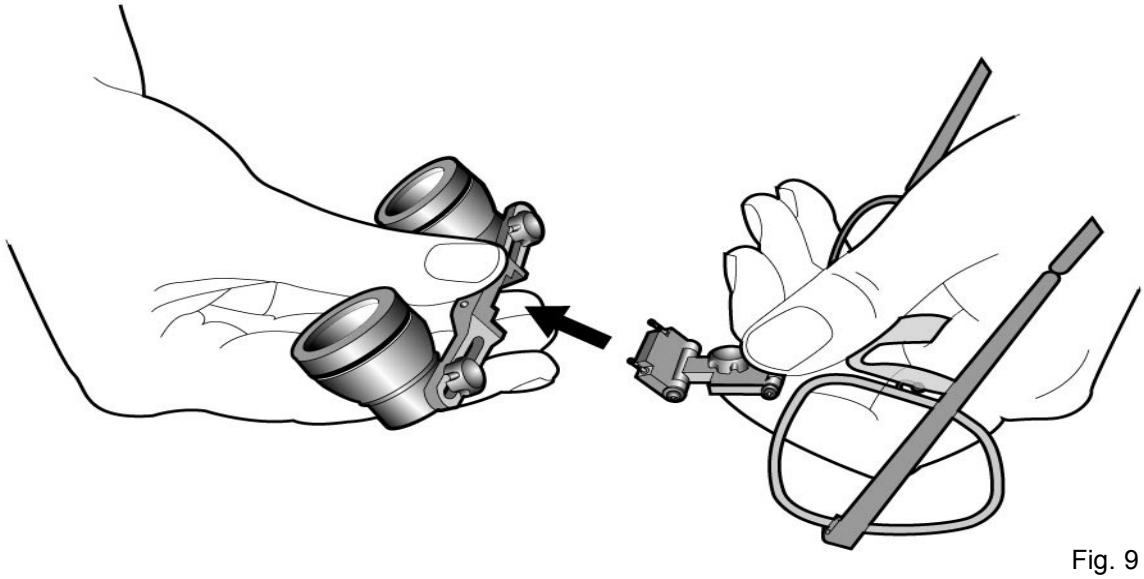


Fig. 9

UNDER NO CIRCUMSTANCES SHOULD THIS BE DONE BY HOLDING THE TELESCOPES

If your Loupe frames are fitted with prescription lenses, you may find it necessary to position your Loupes on the front stop of the Loupe pins to prevent the telescope from touching the lenses, particularly when the curvature of high powered lenses prevent the Loupes from being angled fully downward.

7. “FLIP UP”

Keeler Surgical Loupes are mounted on a specially designed hinge, permitting the telescopes to be flipped up out of view when not required
(Fig. 10).

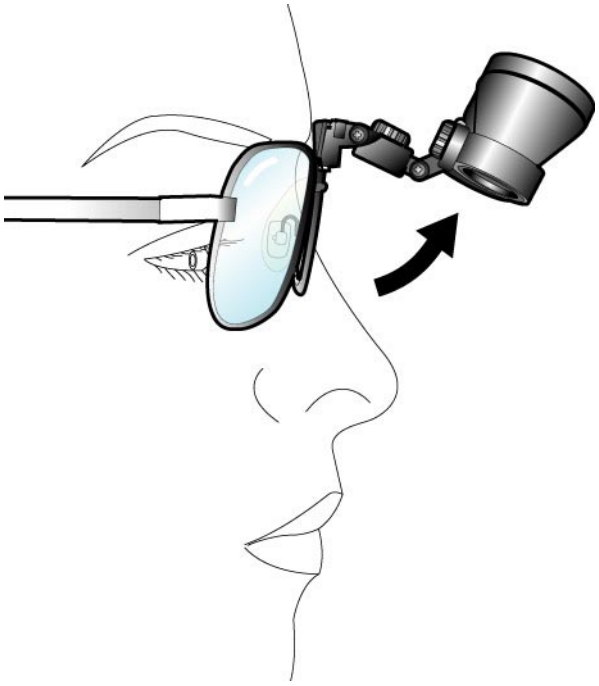


Fig. 10

To avoid touching the non-sterile Loupes, a sterilisable Loupe flip lever is provided with each pair of Loupes (spares are also available). When magnification is required again, the Loupes may be returned to their original preset working angle. The Loupe flip lever is fitted by pushing onto the Loupe bar (Fig. 11) and removed by twisting off.

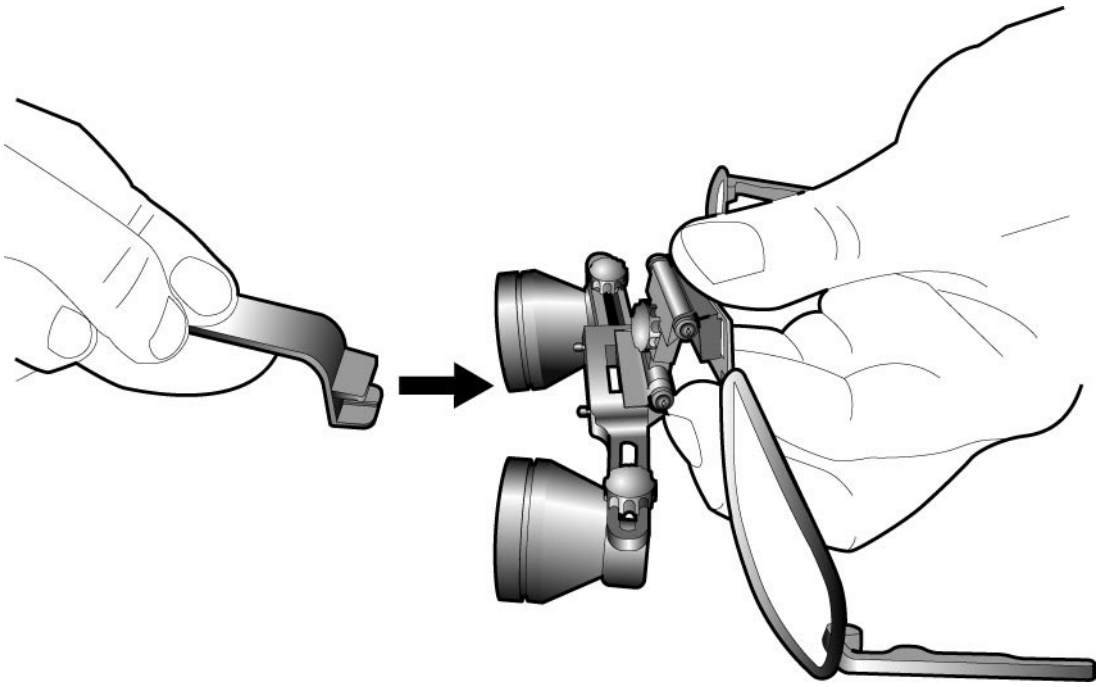


Fig. 11

Over a period of time the hinge tension may slacken slightly and require adjustment. Using a small crosshead or Phillips screwdriver, adjust the hinge screw to the required tension as shown (Fig. 12).

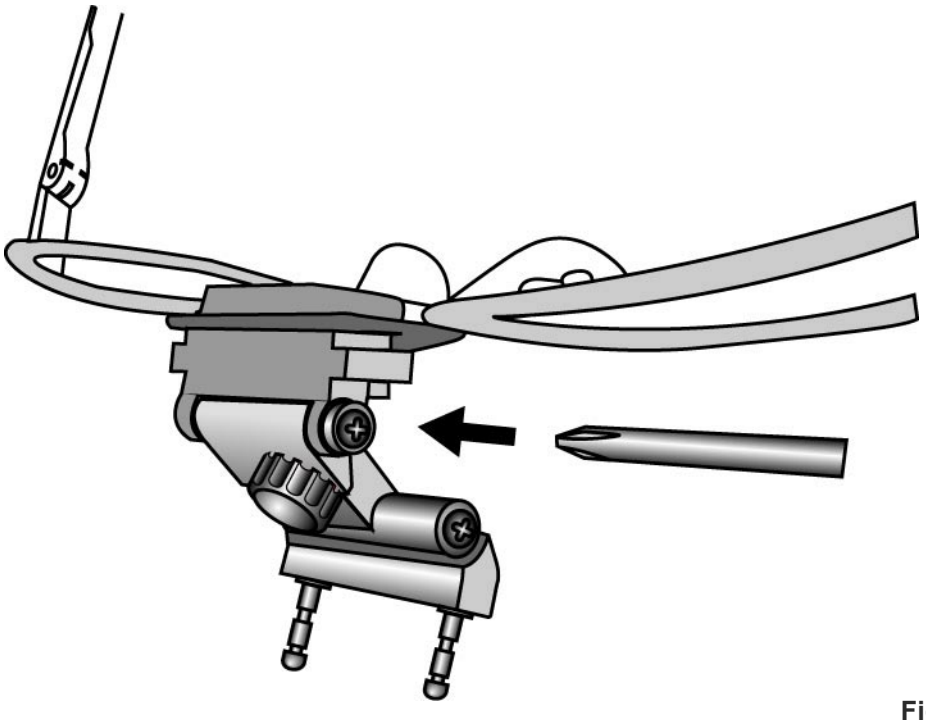


Fig. 12

8. THE LOUPE HEADSTRAP

Keeler Surgical Loupes are supplied with the headstrap already fitted (spares are available). The use of the headstrap is strongly recommended for added security and to ensure that the Loupes are close to your eyes for the widest field of view.
Simply fit the headstrap over the ends of the loupe side arms. When wearing the loupes use the toggle to tighten the strap.

9. FRAME ADJUSTMENTS

The length of the Loupe side arms may be altered by bending the end section to provide a comfortable fit..A qualified optician should do any other adjustments required to the frame.

10. PROTECTIVE AND +1D CAPS.

All Keeler loupes are supplied with protective caps. These are designed to be a push fit. We recommend these be worn at all times to help protect the lenses. Lens caps may be washed or autoclaved as necessary.
+1D lens caps can be ordered separately. They reduce the working distance and are useful if you need to work in two different positions. They are also a push fit.

11. SIDE SHIELDS

Keeler Surgical Loupes are supplied with (removable) side shields already fitted for added protection.

12. CARE OF YOUR KEELER LOUPES

Keeler Surgical Loupes are precision made optical instruments and will give many years of trouble free use if properly cared for. Under no circumstances should the telescopes be autoclaved or immersed in any form of cleaning fluid.

CLEANING AND STERILIZATION INSTRUCTIONS

Only non-immersion cleaning as described below should be used for Keeler Loupes.

1. Wipe the external surface using a clean, absorbent, non-shedding cloth dampened with a water/ detergent solution (2% detergent by volume) or water/isopropyl alcohol solution (70%IPA by volume). Avoid optical surfaces.

2. Ensure excess solution does not enter the instrument.
Use caution to ensure cloth is not saturated with solution.

3. Surfaces should be hand dried using a clean non-shedding dry cloth.

4. Safely dispose of used cleaning materials.

5. The optical surfaces of the Loupes are treated with an anti-reflective coating and should only be cleaned with the lens cloth provided.

6. The Loupe flip lever, protective and ID caps may be autoclaved for 3 minutes at 134º c.

7. Carefully examine to ensure that all visible contamination has been removed.

For more extensive cleaning, service or repair, the Loupes may be returned to your authorised Keeler distributor or to Keeler directly.

13. ORDERING SPARES AND ACCESSORIES

The following spares and accessories may be ordered from any authorised Keeler distributor or Keeler directly, quoting the part number below:

2199-P-6312 Small frame with multi-hinge (all frames are supplied fitted with protective lenses)

2199-P-6313 Standard frame with multi-hinge

2199-P-6314 Large frame with multi-hinge

2199-P-7101 Pair of plain protective lenses for frame

2199-P-7259 Headband for surgical Loupes

2199-P-7099 Head strap

2199-P-7136 Hi-tech lens cloth in wallet

2112-P-8057 +1D lens cap for Galilean Loupes (pair)

2112-P-8049 Protective caps for Galilean Loupes (pair)

2113-P-7001 +1D lens cap for Panoramic Loupes (pair)

2113-P-7000 Protective caps for Panoramic Loupes (pair)

2199-P-7216 Loupe flip lever (pack of 7)

2199-P-5579 Side shields (pair)

14. WARRANTY

Your Keeler telescopes are guaranteed for 3 years and will be replaced or repaired free of charge subject to the following;

1. Any fault that is due to faulty manufacture.

2. The instrument has been used in compliance with these instructions.

3. Proof of purchase accompanies any claim.

15. OPTICIAN GUIDANCE NOTES

The set of Keeler surgical loupes have been supplied to your customer with Plano lenses fitted. We hope that the following notes on lens fitting and frame adjustments will help you, help your customer obtain the best from their loupes.

There are two types of binocular telescopes used in Keeler loupes:
Galilean based on a Galilean optical system
Panoramic based on a Keplerian telescope system incorporating a roof prism.

Prescription fitting
First establish the following facts; -

1. The type of loupe (i.e. Galilean or Panoramic).
2. The magnification.
3. The working distance or focal length (noted on the loupes).
4. Your customers interpupillary distance, taking the working distance/ focal length of the loupe into consideration.

It is important to fit the frame as close as possible to the eyes so that your customer can obtain the widest field of view.

Any distance prescription should be fitted with centers to coincide with the loupe IPD setting.

If fitting bifocals, care should be taken to fit the bifocal segment either below or above the rim of the telescope (Fig 12) never in between. If the near vision ADD is more than +2D the bifocal segment should be fitted below the lower rim of the telescopes to avoid shortening the focal length of the telescopes and causing double vision.

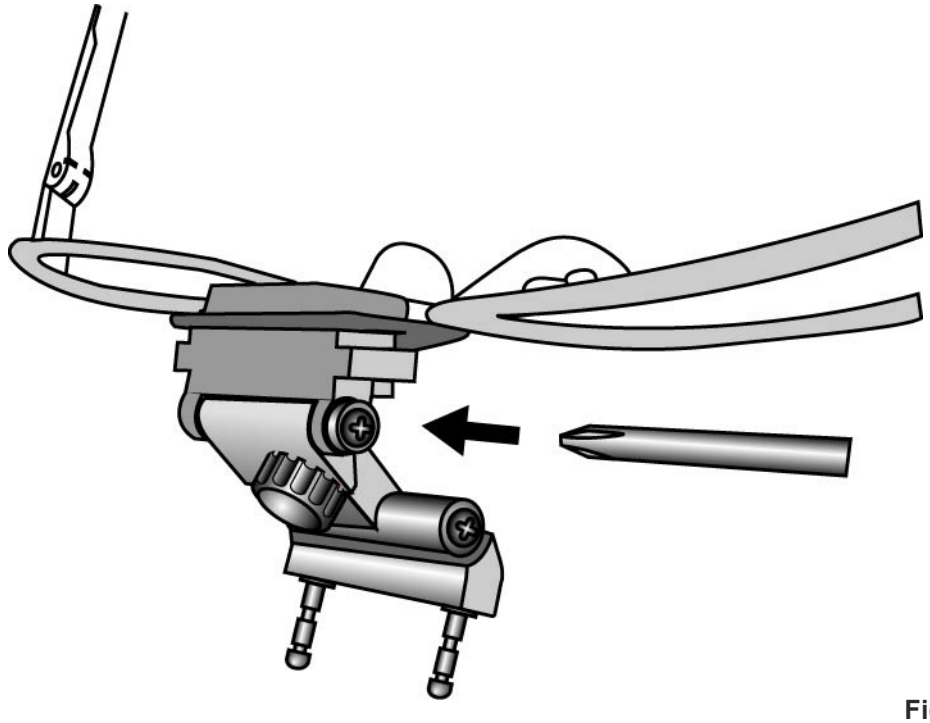


Fig. 12

Varifocals are not suitable for fitting to Keeler loupes.

In most cases the Bifocal ADD should be the same as the normal prescription. However, some surgeons prefer the ADD to be of a power that produces a working distance similar to that of the loupe telescopes. This avoids constant accommodation as they alternatively look through the loupe and alongside for orientation. Others prefer a weaker ADD for easier focussing onto surgical instruments outside the operative area. Discuss this matter with your customer to ascertain which option is best suited to their needs.

ALL lenses should be plastic

Once your customers loupes have been glazed, it may be necessary to place the loupes on the front stop of the loupe pins to prevent the telescopes from touching the lenses, particularly where the curvature of high powered lenses prevent the loupes from being angled fully downwards.

CORRECT FITTING OF KEELER LOUPES

When you have glazed your customers correction into the loupe frame, we would be grateful if you could offer further assistance to help them "set up" the loupes correctly so that they can obtain the best from them. Full fitting instructions are given earlier.

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